

Translation

PATENT COOPERATION TREATY

PCT

PCT/JP2003/010840



INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY
(Chapter II of the Patent Cooperation Treaty)

(PCT Article 36 and Rule 70)

Applicant's or agent's file reference W1111-00	FOR FURTHER ACTION See Form PCT/IPEA/416	
International application No. PCT/JP2003/010840	International filing date (day/month/year) 27 August 2003 (27.08.2003)	Priority date (day/month/year) 12 December 2002 (12.12.2002)
International Patent Classification (IPC) or national classification and IPC F23C 9/08, F23L 7/00		
Applicant BABCOCK-HITACHI KABUSHIKI KAISHA		

<p>1. This report is the international preliminary examination report, established by this International Preliminary Examining Authority under Article 35 and transmitted to the applicant according to Article 36.</p> <p>2. This REPORT consists of a total of <u>3</u> sheets, including this cover sheet.</p> <p>3. This report is also accompanied by ANNEXES, comprising:</p> <p>a. <input type="checkbox"/> (sent to the applicant and to the International Bureau) a total of _____ sheets, as follows:</p> <p><input type="checkbox"/> sheets of the description, claims and/or drawings which have been amended and are the basis of this report and/or sheets containing rectifications authorized by this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions).</p> <p><input type="checkbox"/> sheets which supersede earlier sheets, but which this Authority considers contain an amendment that goes beyond the disclosure in the international application as filed, as indicated in item 4 of Box No. I and the Supplemental Box.</p> <p>b. <input type="checkbox"/> (sent to the International Bureau only) a total of (indicate type and number of electronic carrier(s)) _____, containing a sequence listing and/or tables related thereto, in computer readable form only, as indicated in the Supplemental Box Relating to Sequence Listing (see Section 802 of the Administrative Instructions).</p>	
<p>4. This report contains indications relating to the following items:</p> <p><input checked="" type="checkbox"/> Box No. I Basis of the report</p> <p><input type="checkbox"/> Box No. II Priority</p> <p><input type="checkbox"/> Box No. III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability</p> <p><input type="checkbox"/> Box No. IV Lack of unity of invention</p> <p><input checked="" type="checkbox"/> Box No. V Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement</p> <p><input type="checkbox"/> Box No. VI Certain documents cited</p> <p><input type="checkbox"/> Box No. VII Certain defects in the international application</p> <p><input type="checkbox"/> Box No. VIII Certain observations on the international application</p>	

Date of submission of the demand 08 July 2004 (08.07.2004)	Date of completion of this report 17 November 2004 (17.11.2004)
Name and mailing address of the IPEA/JP	Authorized officer
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INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

International application No.

PCT/JP2003/010840

Box No. I Basis of the report

1. With regard to the language, this report is based on the international application in the language in which it was filed, unless otherwise indicated under this item.

- ☐ This report is based on translations from the original language into the following language _____, which is language of a translation furnished for the purpose of:
- ☐ international search (under Rules 12.3 and 23.1(b))
 - ☐ publication of the international application (under Rule 12.4)
 - ☐ international preliminary examination (under Rules 55.2 and/or 55.3)

2. With regard to the elements of the international application, this report is based on (replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report):

- ☒ The international application as originally filed/furnished
- ☐ the description:
- pages _____, as originally filed/furnished
- pages* _____ received by this Authority on _____
- pages* _____ received by this Authority on _____
- ☐ the claims:
- pages _____, as originally filed/furnished
- pages* _____, as amended (together with any statement) under Article 19
- pages* _____ received by this Authority on _____
- pages* _____ received by this Authority on _____
- ☐ the drawings:
- pages _____, as originally filed/furnished
- pages* _____ received by this Authority on _____
- pages* _____ received by this Authority on _____
- ☐ a sequence listing and/or any related table(s) – see Supplemental Box Relating to Sequence Listing.

3. ☐ The amendments have resulted in the cancellation of:

- ☐ the description, pages _____
- ☐ the claims, Nos. _____
- ☐ the drawings, sheets/figs _____
- ☐ the sequence listing (specify): _____
- ☐ any table(s) related to sequence listing (specify): _____

4. ☐ This report has been established as if (some of) the amendments annexed to this report and listed below had not been made, since they have been considered to go beyond the disclosure as filed, as indicated in the Supplemental Box (Rule 70.2(c)).

- ☐ the description, pages _____
- ☐ the claims, Nos. _____
- ☐ the drawings, sheets/figs _____
- ☐ the sequence listing (specify): _____
- ☐ any table(s) related to sequence listing (specify): _____

* If item 4 applies, some or all of those sheets may be marked "superseded."

INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

International application No.

PCT/JP03/10840

Box No. V Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. Statement

Novelty (N)

Claims

1-25

YES

Claims

NO

Inventive step (IS)

Claims

YES

Claims

1-25

NO

Industrial applicability (IA)

Claims

1-25

YES

Claims

NO

2. Citations and explanations (Rule 70.7)

Document 1: JP, 54-35419, A (Mitsubishi Heavy Industries, Ltd.), 15 March, 1979 (15.03.79), page 2, upper left column, line 9 to lower left column, line 2, Fig. 1

Document 2: JP, 50-4626, A (Mitsui Engineering & Shipbuilding Co., Ltd.), 18 January, 1975 (18.01.75), page 2, upper left column, line 15 to upper right column, line 2, upper right column, lines 9-11, Figs. 1-4

Document 3: JP, 9-296927, A (Kubota Corp.), 18 November, 1997 (18.11.97), column 4, line 5 to column 6, line 15, Figs. 2-6

Document 4: JP, 59-74408, A (Babcock-Hitachi K.K.), 26 April, 1984 (26.04.84), page 2, lower left column, lines 2-13, page 3, lower right column, lines 13-19, Figs. 1 and 3

Document 5: JP, 62-276322, A (Babcock-Hitachi K.K.), 1 December, 1987 (01.12.87), page 4, upper left column, line 19 to lower right column, line 9

The subject matters of claims 1-7, 10-12 and 17-23 do not appear to involve an inventive step in view of newly cited document 1 and document 2 cited in the ISR. As described in document 2, a person skilled in the art could have easily selected the area where combustion gas and combustion air are mixed with each other, as the exhaust gas supply position described in document 1.

The subject matters of claims 8, 9, 24 and 25 do not appear to involve an inventive step in view of documents 1 and 2 and newly cited document 3. Document 3 describes a matter in which plural exhaust gas supply nozzles are arranged as a group for thick and thin combustion. A person skilled in the art could have easily arranged inhibiting gas nozzles densely on the burner side.

The subject matters of claims 13-15 do not appear to involve an inventive step in view of documents 1 and 2 and document 4 cited in the ISR. Document 4 describes (1) a matter in which air ports are installed in the width direction of a furnace and are respectively variable in response to the combustion state, and (2) a matter in which the exhaust gas mixing rate at the central portion of the furnace is enhanced. So, a person skilled in the art could have easily arrived at the subject matters of claims 13-15.

The subject matter of claim 16 does not appear to involve an inventive step in view of documents 1 and 2 and document 5 cited in the ISR. Document 5 describes a matter in which the quantity of exhaust gas supply can be changed in response to the concentration of nitrogen oxides. So, a person skilled in the art could have easily arrived at the subject matter of claim 16.